

Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 35.

August, 1933.

No. 416.

A TERATOLOGICAL SPECIMEN OF *CYPRIPEDIUM ACAULE*

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THE swamps of Pownal, Vermont have long been a favorite hunting ground for orchid lovers, especially since the appearance of Grace Greylock Niles' "Bog-Trotting for Orchids" a quarter of a century ago. While exploring the swamps for some of the rarer species, my companion, Mr. Reginald French of the Williams College faculty, called my attention to an unusual specimen of *Cypripedium acaule* Ait. which had caught his eye. A casual examination showed several abnormal morphological features. The specimen was taken to the laboratory for more careful observation.

At first glance the most striking feature was that the plant bore two flowers instead of the usual single blossom. Miss Niles mentions two-flowered specimens. Possibly they are not rare but in my own field experience this is the first example found among several thousands of specimens examined over a period of several years. Most field observers are familiar with the wide range of color variation in the species and even albinos are apparently not rare. The specimen described below was white with just a suggestion of yellow.

The flower of the normal species is subtended by a bract. The inferior ovary lies between the bract and the rest of the floral parts. The single upper sepal and the two fused sepals together with the two strap-shaped petals and the large labellum appear to be borne from the top of the ovary. The column bearing the two fertile anthers, the curved stigma, and the large herbaceous staminode is borne above the ovary.

The accompanying figure (FIG. 1) illustrates the abnormal specimen. The bract at the left subtends a flower borne directly in the leaf axil. A second flower is borne at the apex of the main axis. The ovary of the axillary flower is from two to three times the length of a normal ovary. Above it are borne only two perianth structures—apparently sepals. The reproductive structures are also highly modified. The large conspicuous column is distinctly trilobed at the apex. Two fertile stamens are borne on very evident projections from the column. The staminode is not present. Microscopic examination

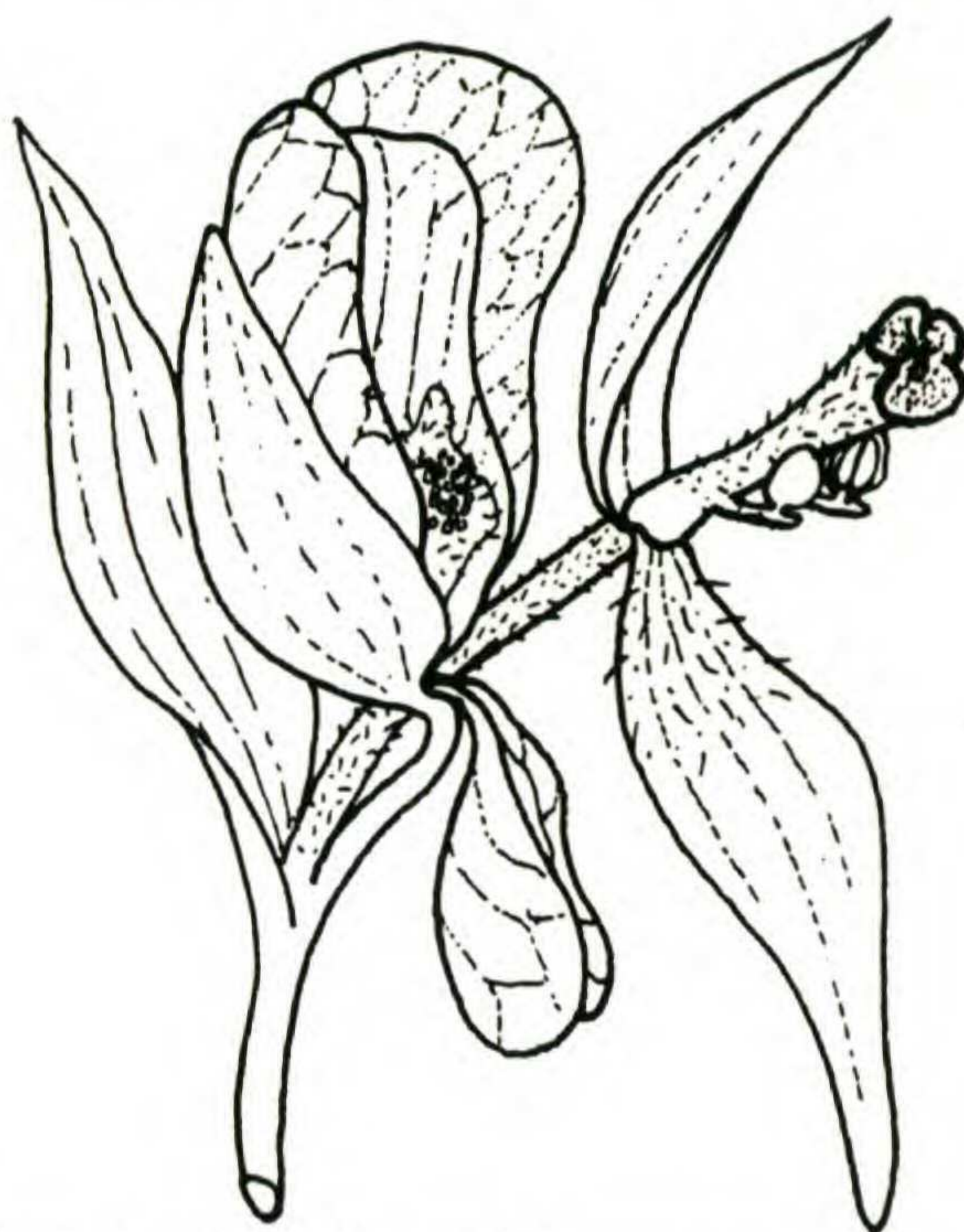


FIG. 1. Teratological *CYPRIPEDIUM ACAULE*.

of the ovules showed them to be of the same structure as ovules from a normal specimen.

The second flower is subtended by a bract. The perianth consists of two labellum-like structures. The lower of these is about one half the size of the upper which is slightly smaller than the labellum of a normal specimen. The upper structure encloses what appears to be a malformed ovary. At least, the small white objects borne on the outside of this tissue proved on microscopic examination to be rudimentary ovules.

The vegetative portions of the plant were normal in gross structure.

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